(19) World Intellectual Property Organization

International Bureau



TERRET BELLEVEN IN BERLEVEN BELLEVEN BELLEVEN BELLEVEN BELLEVEN BELLEVEN BELLEVEN BELLEVEN BELLEVEN BELLEVEN B

(43) International Publication Date 20 October 2005 (20.10.2005)

PCT

NZ

(10) International Publication Number WO 2005/096916 A1

(51) International Patent Classification7:

A61B 1/313

(21) International Application Number:

PCT/NZ2005/000069

(22) International Filing Date: 5 April 2005 (05.04.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

532195 5 April 2004 (05.04.2004)

(71) Applicants (for all designated States except US): FISHER & PAYKEL HEALTHCARE LIMITED [NZ/NZ]; 15 Maurice Paykel Place, East Tamaki, Auckland, 1706 (NZ) GUILIVER, Laurence [NZ/NZ]; 95B Ranfurly Road, Epsom, Auckland, 1003 (NZ).

(72) Inventors; and

(75) Inventors/Applicants (for US only): BLACKHURST, Michael, Joseph [NZ/NZ]; 5 Royston Street, Papakura, Auckland, 1703 (NZ). MURPHY, Robert, Ashton [CA/NZ]; 9A Ballarat Street, Ellerslie, Auckland, 1005 (NZ)

(74) Agents: ADAMS, Matthew, D et al.; A J Park, 6th Floor Huddart Parker Building, PO Box 949, Wellington, 6015 (NZ).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

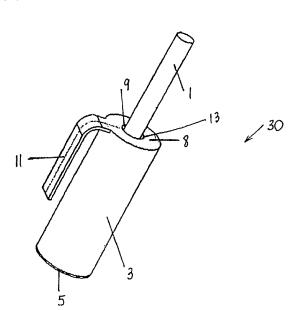
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: SCOPE WARMING DEVICE



(57) Abstract: A warming device (30) for warming the lens portion (2) of an optical instrument (1), such as a laparoscope, to a temperature above ambient to prevent lens fogging comprising: a double walled cylindrical tube (3) having an internal wall (3b), and an external wall (3a), an upper surface and an open distal portion (7) with a central cavity (4) therebetween; a protrusion (9) extending from said upper surface, sized and shaped to receive the lens portion; a circular cap (5) sized to attach to said distal portion of said double walled cylindrical tube; and, a heating element (15) enclosed within said central cavity and thermally coupled to said insulation layer.